No. 200100085

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE [illegible]GHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR [illegible]TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE [illegible]URPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PR[illegible]Y THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'93B47'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighth day of May, in the year of our Lord two thousand one.

Attest:

Alan R. Post

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[illegible] Veneman

Secre[illegible]riculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER: Pioneer Hi-Bred International, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME:

2. VARIETY NAME: 93B47

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
7300 N. W. 62nd Avenue
P. O. Box 1004
Johnston, IA 50131

5. TELEPHONE *(include area code)*: 515-254-2638

6. FAX *(include area code)*: 515-253-2288

FOR OFFICIAL USE ONLY

PVPO NUMBER: 20010008

FILING DATE: January 25, 200

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*: Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION: Iowa

9. DATE OF INCORPORATION: May 6, 1926

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Daria Schmidt, Ph.D.
7300 NW 62nd Ave.
P.O. Box 1004
Johnston, Iowa 50131-1004

Jean Bromert (copy)
7100 NW 62nd Ave.
P. O. Box 1000
Johnston, Iowa 50131-1000

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 2705 –
DATE Jan 25, 01

CERTIFICATION FEE: $ 320.00
DATE 5/2/01

11. TELEPHONE *(Include area code)*: 515-254-2638

12. FAX *(Include area code)*: 515-253-2288

13. E-MAIL: schmidtdh@phibred.com

14. CROP KIND *(Common Name)*: Soybean

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. [x] Exhibit A. Origin and Breeding History of the Variety
b. [x] Exhibit B. Statement of Distinctness
c. [x] Exhibit C. Objective Description of Variety
d. [x] Exhibit D. Additional Description of the Variety *(Optional)*
e. [x] Exhibit E. Statement of the Basis of the Owner's Ownership
f. [x] Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be depositied and maintained in an approved public repository)*
g. [x] Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
[ ] YES *(If "yes", answer items 20 and 21 below)* [x] NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? [ ] YES [ ] NO
IF YES, WHICH CLASSES? [ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? [ ] YES [ ] NO
IF YES, SPECIFY THE NUMBER 1, 2, 3, *etc.* [ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
[ ] YES [x] NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
[x] YES [ ] NO
IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER: Daria H. Schmidt

NAME *(Please print or type)*: Daria H. Schmidt

CAPACITY OR TITLE: Director, Associative Genetics/Technology Integration

DATE: 1/22/01

SIGNATURE OF OWNER:

NAME *(Please print or type)*:

CAPACITY OR TITLE:

DATE:

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete. *(See reverse for instructions and information collection burden statement)*

INSTRUCTIONS 200100085

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

18a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

21. *See Section 83 of the Act for the Contents and Term of Plant Variety Protection.*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

U.S. Patent 4,940,835 issued to Shah et al. as per the Roundup Ready Gene in this variety

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

<u>Exhibit A.</u> Origin and Breeding History of the Variety

Soybean Variety 93B47

Variety 93B47 evolved from a 1994 cross of 9352////9362///9342//9341G40-3-2.

It is an F3-derived variety, which was advanced to the F3 generation by modified single seed descent. The F4 progeny row of 93B47 was grown in the winter 1996-97 at Chile. Subsequently, 93B47 has undergone three years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants. On the basis of resistance to Roundup branded herbicides, multi-race resistance (Rps1c) to *Phytophthora megasperma* var. *soja*e, and very good yield potential variety 93B47 was assigned a commercial number.

The purification block was grown during the summer of 1998 and 44 sublines were bulked for increase. Nineteen acres of 93B47 (breeders seed) were grown in the summer of 1999. Four hundred seventy-four acres of parent seedstock (foundation seed equivalent) were grown in the summer of 2000 and 22,251 bushels were harvested.

Exhibit B. Statement of Distinctness

Soybean Variety 93B47

Soybean variety 93B47 is most similar to the variety 93B51. Both varieties have white flowers, tawny pubescence, brown hilum color, and resistance to Roundup branded herbicides. Variety 93B47 is resistant to race 7 of *Phytophthora megasperma* var. *sojae* whereas 93B51 is susceptible. Variety 93B47 has shiny seed coat luster and 93B51 has a dull seed coat luster. Additionally, 93B47 and 93B51 differ in isozyme marker alleles at loci IDH1, MPI, and PGM1 (Table 1).

Variety 93B47 is also similar to variety 93B35. Both have tawny pubescence and resistance to Roundup branded herbicides. However, 93B47 has white flowers, yellow seeds with brown hila color, and is susceptible to race 5 of *Phytophthora megasperma* var. *sojae* whereas 93B35 has purple flowers, yellow seeds with black hila color, and is resistant to race 5 of *Phytophthora megasperma* var. *sojae.* Additionally, 93B47 and 93B35 differ in isozyme marker alleles at loci ACO2 and MPI (Table 1).

Variety 93B47 is also similar to variety 93B53. Both have tawny pubescence and resistance to Roundup branded herbicides. However, 93B47 has white flowers, yellow seed with brown hila color, and is susceptible to race 5 of *Phytophthora megasperma* var. *sojae* whereas 93B53 has purple flowers, yellow seeds with black hila color, and is resistant to race 5 of *Phytophthora megasperma* var. *sojae.* Additionally, 93B47 and 93B53 differ in isozyme marker alleles at loci ACO2 and MPI (Table 1).

Variety 93B47 is also similar to variety S36-U2 from Novartis Seeds. Both have tawny pubescence, yellow seeds with brown hila color, and resistance to Roundup branded herbicides. However, 93B47 has white flowers is resistant to race 7 of *Phytophthora megasperma* var. *sojae* whereas and S36-U2 has purple flowers and is susceptible to race 7 of *Phytophthora megasperma* var. *sojae.*

Table 1. Isozyme alleles at 10 loci for varieties 93B47, 93B51, 93B35, and 93B53.

Loci	93B47 Allele	93B51 Allele	93B35 Allele	93B53 Allele
ACO2	2	2	1	1
ACO3	1	1	1	1
ACP	A	A	A	A
DIA	B	B	B	B
ENP	A	A	A	A
IDH1	1	2	1	1
IDH2	1	1	1	1
MPI	B	A	A	A
PGM1	1	2	1	1
PHI1	1	1	1	1

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

EXHIBIT C
(Soybean)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
Pioneer Hi-bred International	PVPO NUMBER 200100085
ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* 7300 N.W. 62nd Avenue P.O. Box 1004 Johnston, IA 50131-1004	VARIETY NAME 93B47
	TEMPORARY OR EXPERIMENTAL DESIGNATION

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g. [9][9][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

[2]

1 = Spherical (L/W, L/T, and T/W ratios < 1.2)
2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)
4 = Elongate-Flattened (L/T ratio > 1.2;T/W ratio > 1.2)

Seed Coat Color:

[1]

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (*Please Specify*) _____

Seed Coat Luster:

[2]

1 = Dull 2 = Shiny

Seed Size:

[1][2] grams/100 seeds

Hilum Color:

[3]

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black
6 = Black 7 = Other (*Please Specify*) _____

A. MORPHOLOGY (*Continued*)

Cotyledon Color:

[1] 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

[2] 1 = Low 2 = High

Hypocotyl Color:

[2] 1 = Green ('Evans' or 'Davis') 2 = Green with Bronze Bands below Cotyledons ('Woodworth' or 'Tracy') 3 = Light Purple below Cotyledons ('Beeson' or 'Pickett 71') 4 = Dark Purple extending to unifoliolate leaves ('Hodgson', 'Coker', or 'Hampton 266A')

Leaflet Shape:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (*Please Specify*) _____

Flower Color:

[1] 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

[1] 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

[2] 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

[3] 1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

[0 6]

1 = 000	2 = 00	3 = 0	4 = I	5 = II
6 = III	7 = IV	8 = V	9 = VI	10 = VII
11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

Maturity Subgroup:

[4] Please enter a value from 0 - 9

B. DISEASE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

[0] Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

[1] Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

[0] Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

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Fungal

[1] Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leaf Spot (*Cercospora sojina* Hara)

0	race 1	0	race 2	0	race 3	0	race 4
0	race 5	0	race 6	0	Other (*Please Specify*) _____		

[0] Target Spot (*Corynespora cassiicola* (Berk. & Curt.) Wei)

[0] Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

[0] Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

[3] Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

[0] Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

[1] Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

[0] Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

[1] Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

2	race 1	0	race 8	0	race 15	0	race 22
0	race 2	0	race 9	0	race 16	0	race 23
2	race 3	0	race 10	0	race 17	0	race 24
1	race 4	0	race 11	0	race 18	0	race 25
1	race 5	0	race 12	0	race 19	0	race 26
0	race 6	0	race 13	0	race 20	0	Other (*Please Specify*)
2	race 7	0	race 14	0	race 21		_____

[1] Bud Blight (Tobacco Ringspot Virus)

[1] Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

200100083

[1] Cowpea Mosaic (Cowpea Chlorotic Virus)

[1] Pod Mottle (Bean Pod Mottle Virus)

[1] Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

0	race 1	0	race 4	0	race 9
0	race 2	0	race 5	1	race 14
1	race 3	0	race 6	0	Other (*Please Specify*) _____

[0] Lance Nematode (*Hoplolaimus columbus* Sher)

[0] Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

[0] Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

[0] Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

[0] Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

[0] Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

[0] Other Nematode (*Please Specify*) _____

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

[3] Iron Chlorosis on Calcareous Soil

[0] Phosphorus

[0] Other (*Please Specify*) _____

[0] Boron

[0] Aluminum

[0] Salt

[0] Drought

8

D. INSECT REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

200100083

[0] Mexican Bean Beetle (*Epilachna varivestis* Mulsant)

[0] Potato Leaf Hopper (*Empoasca fabae* (Harris))

[0] Other (*Please Specify*) _____

E. HERBICIDE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant

[2] Metribuzin

[0] Bentazone

[1] Sulfonylurea

[2] Glyphosate

[0] Glufosinate

[0] Pendimethalin

[0] Other (*Please Specify*) _____

F. TRANSGENIC COMPOSITION

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?
If yes, please complete the following information requests*. Use additional pages if necessary. [X] YES [ ] NO

1. **Please state the vector's name:**
2. **Please state the vector components:**
3. **Please describe the genetic material successfully transferred into the subject variety:**
4. **Please describe the insertion protocol:**

***A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.**

This section is fully address in the following publication. Specific details of the vector components and insert elements are summarized in Figure 1 and Table 1 on page 1453.

Padgette, S.R. et al. Development, Identification, and Characterization of a Glyphosate-Tolerant Soybean Line. 1995. Crop Science. 35:1451-1461

G. BIOCHEMICAL MARKERS

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (*e.g.* Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

H. COMMENTS

<u>Exhibit D.</u> Additional Description of the Variety

Soybean Variety 93B47

In Exhibit C we have identified variety 93B47 as susceptible to bacterial blight, brown spot, pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle and seed mottle.

This does not mean that variety 93B47 is any worse for these problems than other varieties of similar maturity. Rather, we do not consider 93B47 to be immune to these problems. Therefore, we have chosen to be conservative and have identified the line as "susceptible".

Variety 93B47 is a mid Group III variety. If Group III varieties are divided into tenths, the relative maturity of 93B47 is 3.4.

REPRODUCE LOCALLY. Include form number and edition date on all reproductions. FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 *(5 U.S.C. 552a)* and the Paper Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	2. VARIETY NAME
Pioneer Hi-Bred International, Inc.		93B47
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
7300 NW 62nd Avenue *P. O. Box 1004* *Johnston, IA 50131-1004*	*515-254-2638*	*515-253-2288*
	7. PVPO NUMBER 200100037	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block.
If no, please explain.

[X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. National or a U.S. based company?
If no, give name of country

[X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(If needed, use the reverse for extra space)*:

Please Note:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) ot the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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